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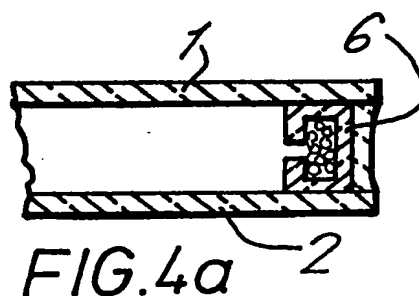
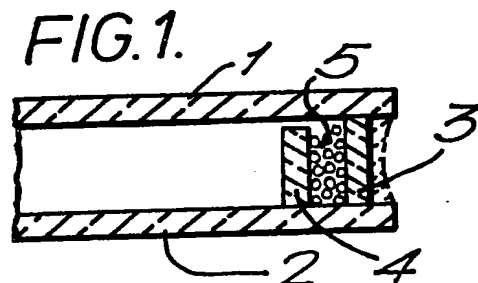
(56) Documents cited  
GB 1497980  
GB 1308134  
GB 1307843

GB 1149029  
GB 0433489

(58) Field of search  
E1R

## (54) Spacer for multiple-glazed unit

(57) A multiple-glazed unit for buildings has two panes 1,2 of glass spaced apart by a spacer frame of ceramic or vitreous material, preferably glass, which may be solid 3 or hollow 6 in section. A retaining wall 4 may be spaced inwardly from the spacer frame sides to retain desiccant granules 5, alternatively the desiccant may be retained in the hollow spacer or adhered to the surface of the solid spacer.



Rest Available Copy

The drawings originally filed were informal and the print here reproduced is taken from a later filed formal copy.  
This print takes account of replacement documents later filed to enable the application to comply with the formal requirements of the Patents Rules 1978 or 1982.

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FIG.1.

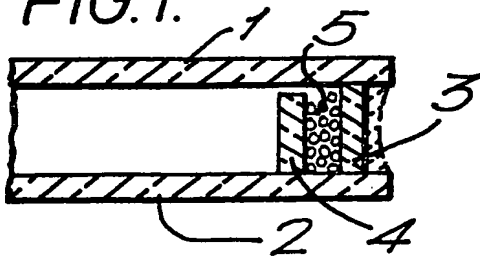


FIG.2.

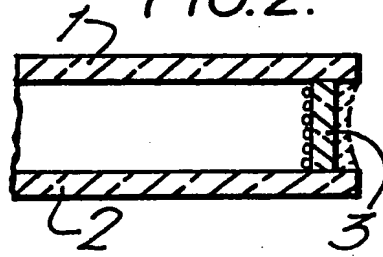


FIG.3a.

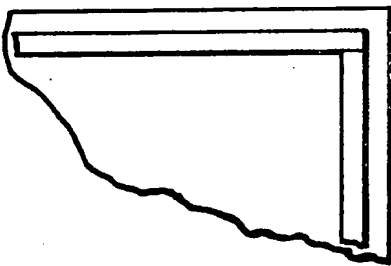


FIG.3b.

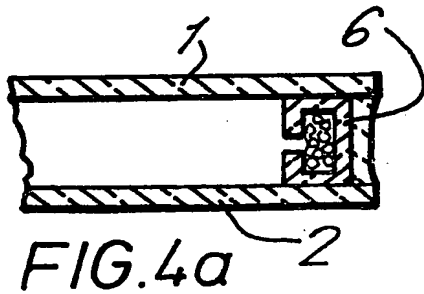
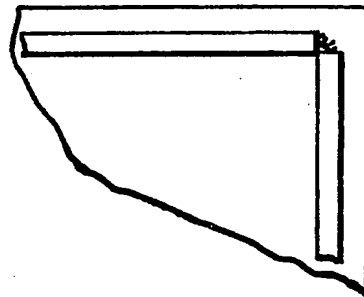


FIG.4a.

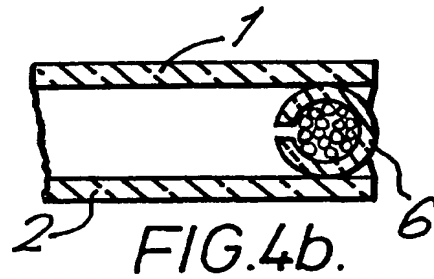
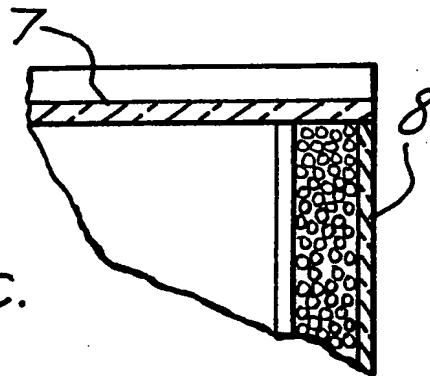


FIG.4b.

FIG.4c.



## SPECIFICATION

## Improvements in or relating to sealed multiple glazed units

5 This invention relates to sealed multiple-glazed units for houses or other buildings and more especially to the means of spacing the glazed sheets apart in such units.

10 It is known to space glass sheets apart in multiple glazed units by means of metal tube spacer frames containing desiccant materials. After the spacer tube frame has been assembled between the panes of glass, a mastic or other edge sealant material is used 15 to seal around the margins of the glass sheets, outside the spacer frame. However such constructions have disadvantages, principally arising due to the high thermal conductivity of the metal spacer tube and the ability of moisture to permeate through 20 the sealant material.

It is an object of the present invention to ameliorate the disadvantages referred to in the previous paragraph.

This invention consists in a multiple glazed unit for 25 a building wherein two or more glazing sheets are spaced apart by means of a ceramic or vitreous spacer frames.

Preferably the spacer frame is made of glass.

Preferably the glass members forming the spacer 30 frame are of solid, e.g. rectangular, section. Alternatively hollow tubular glass members with slits or perforations may be used to make the frame.

Preferably the spacer frame has a retaining wall spaced inwardly from the frame members, and desiccant is held between the spacer and this 35 retaining wall. Alternatively the desiccant granules may be adhered to the inner walls of the spacer frame, or where the spacer frame is tubular the desiccant may be held within the tube.

40 Preferably the spacer frame is adhered to the glazing sheets by means of a glass-bonding adhesive. Optionally an edge-sealing compound may be used outside the frame.

The desiccant may be held in a hollow metal tube 45 provided that this does not form a thermal bridge between the glazing sheets.

The frame corners may be formed by mitring or abutting suitable lengths of glass rod or tube, of rectangular or other section. A mixture of solid rod 50 sections and hollow tubes may be used to construct the frame.

The invention will be further described with reference to the accompanying drawings in which:

55 *Figure 1* shows a section through a double-glazed unit incorporating a solid glass spacer bar according to the invention.

*Figure 2* shows a section through an alternative arrangement according to the invention.

*Figures 3a* and *3b* show corner arrangements.

60 *Figures 4a, 4b* and *4c* show the use of tubular glass members in a frame according to the invention.

With reference to *Figure 1*, two panes 1, 2 of glass are spaced apart by means of glass spacer bar 3 which is adhered to the glass sheets by means of a

65 suitable glass-bonding adhesive. Inside the spacer

bar 3 a glass retaining wall 4 is adhered to one of the glass sheets and serves to retain granules of desiccant 5 between the two walls, so as to keep the space between the two glass panes in a dry condition.

70 With reference to *Figure 2*, an alternative arrangement is shown with the desiccant granules adhering to the inner face of the spacer bar by means of a suitable adhesive.

*Figure 3* shows alternative corner arrangements 75 for spacer frames in accordance with the invention.

With reference to *Figures 4* and *4b*, tubular members 6 which have slits or holes therein are used to space apart the sheets of glazing material and to retain desiccant granules. *Figure 4c* shows a 80 mixture of rectangular section glass rod 7 and glass tube 8 used to make up a spacer frame.

## CLAIMS

- 85 1. A multiple-glazed unit for a building wherein two or more sheets of glazing material are spaced apart by means of one or more ceramic or vitreous spacer frames.
2. A unit as claimed in claim 1 in which the 90 spacer frame is made of glass.
3. A unit as claimed in claims 1 or 2 in which the members forming the frame are solid
4. A unit as claimed in claims 1 or 2 in which the frame is made up of hollow tubular members with 95 slits or perforations.
5. A unit as claimed in claims 1 or 2 in which a retaining wall is spaced inwardly from the spacer frame and desiccant is retained between the frame and the wall.
- 100 6. A unit as claimed in claim 4 in which the hollow tubular members are used to retain desiccant.
7. A unit as claimed in any preceding claim in which the frame is secured to the glazing material by 105 a glass-bonding adhesive.
8. A unit as claimed in claims 3 or 4 in which the frame is made by butting or mitring suitable lengths of glass rod or tube to form a rectangular frame.
9. A unit as claimed in claim 8 in which a mixture 110 of rods and tubes is used to make up the frame.
10. A multiple-glazed unit substantially as hereinbefore described with reference to *Figures 1* or *2* or *3a* or *3b* or *4a* or *4b* or *4c* of the accompanying drawings.